

EXHIBIT 4

Privacy Sandbox blog

Latest news, posts, and updates.



Storage Partitioning deprecation trial renewal

(<https://developers.google.com/privacy-sandbox/blog/storage-partitioning-deprecation-trial-renewal?hl=en>)

For sites that need time to adjust to third-party partitioning of storage, service...

Privacy Sandbox

Privacy Sandbox Google I/O 2024



Privacy Sandbox at Google I/O 2024

(<https://developers.google.com/privacy-sandbox/blog/google-io-2024?hl=en>)

The Privacy Sandbox team was at Google I/O 2024 to share the latest news on third...

Privacy Sandbox



Validating the security of the Aggregation Service

(<https://developers.google.com/privacy-sandbox/blog/validate-aggregation-service-security?hl=en>)

Sharing updates on the Aggregation Service coordinators, and results of an...

Privacy Sandbox

Mike Taylor

Sam Dutton

Renan Feldman

Privacy Sandbox
developers

Chrome's third-party cookie deprecation trials: grace period extended

(<https://developers.google.com/privacy-sandbox/blog/grace-period-extension?hl=en>)

The grace period for Chrome's third-party cookie deprecation trials is being...

Privacy Sandbox

Sam Dutton
March 13, 2024

Privacy Sandbox
developers

Privacy Sandbox response to IAB Tech Lab's Fit Gap Analysis for Digital Advertising

(<https://developers.google.com/privacy-sandbox/blog/iab-tech-lab-response?hl=en>)

We're responding because we believe that it's important to listen to what IAB...

Privacy Sandbox

Alex Cone
February 15, 2024

Privacy Sandbox
developers

Join the Privacy Sandbox Office Hours: Private State Tokens

(<https://developers.google.com/privacy-sandbox/blog/office-hours-private-state-tokens?hl=en>)

Register for the upcoming Private State Tokens Office Hours. Coming on th...

Privacy Sandbox

February 4, 2024

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developers



Join Privacy Sandbox Office Hours #12: Learn about Chrome- facilitated testing

(<https://developers.google.com/privacy-sandbox/blog/office-hours-12?hl=en>)

Join the 12th edition of Privacy Sandbox office hours dedicated to Chrom...

Privacy Sandbox

Milica Mihajlija
January 29, 2024

Privacy Sandbox
developers



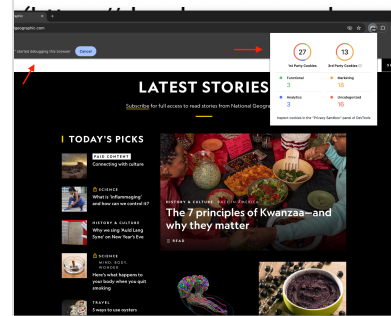
Third-party cookie deprecation trial for top- level sites now available

(<https://developers.google.com/privacy-sandbox/blog/3pcd-first-party-deprecation-trial-available?hl=en>)

If your first-party site relies on third-party embedded services and third-party cooki...

Privacy Sandbox

Milica Mihajlija
January 25, 2024



Introducing the Privacy Sandbox Analysis Tool (PSAT).

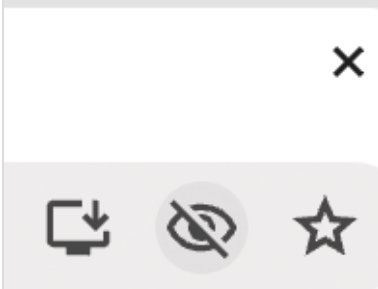
(<https://developers.google.com/privacy-sandbox/blog/psat-announcement?hl=en>)

Announcing the Privacy Sandbox Analysis Tool, a DevTools extension...

Privacy Sandbox

Alberto Medina
January 15, 2024

(https://developers.google.co



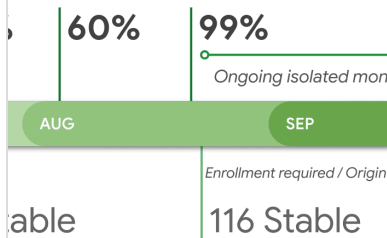
Third-party cookies restricted by default for 1% of Chrome users

(https://developers.google.com/privacy-sandbox/blog/cookie-countdown-2024jan?hl=en)

If your site uses third-party cookies it's time to take action as we approach their...

Privacy Sandbox

in Chrome Stable



Shipping the Privacy Sandbox relevance and measurement APIs

(https://developers.google.com/privacy-sandbox/blog/privacy-sandbox-launch?hl=en)

Plans and timeline for gradually enabling the Privacy Sandbox relevance and...

Privacy Sandbox

Privacy Sandbox developers



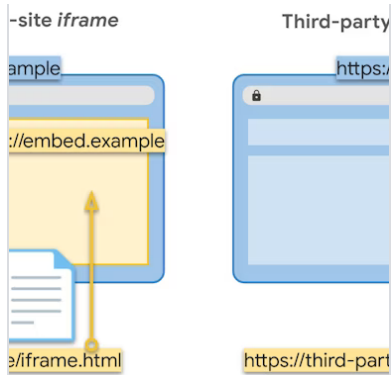
Participate in the origin trial for non-cookie storage access through the Storage Access API

(https://developers.google.com/privacy-sandbox/blog/saa-non-cookie-storage?hl=en)

Chrome is proposing the ability for third parties to request storage or...

JavaScript

Privacy Sandbox



Request additional migration time with the third-party cookie deprecation trial

(<https://developers.google.com/privacy-sandbox/blog/third-party-cookie-deprecation-trial?hl=en>)

To facilitate testing, Chrome has restricted third-party cookies by default for 1% of...

JavaScript HTML

Privacy Sandbox

<https://developers.google.com/privacy-sandbox/blog/cookie-countdown-2023oct?hl=en>

Preparing for the end of third-party cookies

(<https://developers.google.com/privacy-sandbox/blog/cookie-countdown-2023oct?hl=en>)

If your site uses third-party cookies, it's time to take action as we approach their...

Privacy Sandbox

Privacy Sandbox
developers

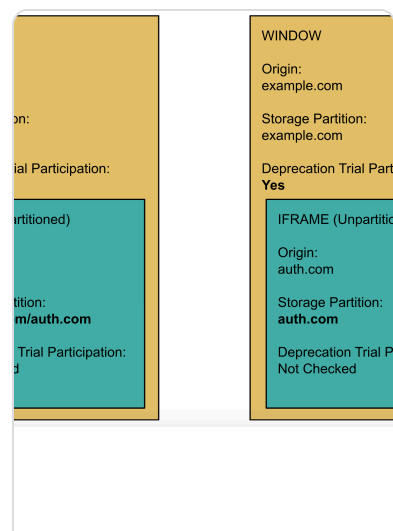
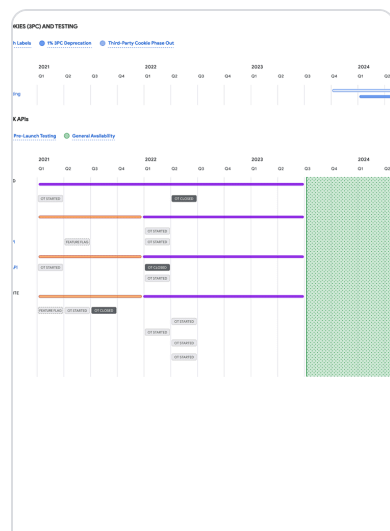
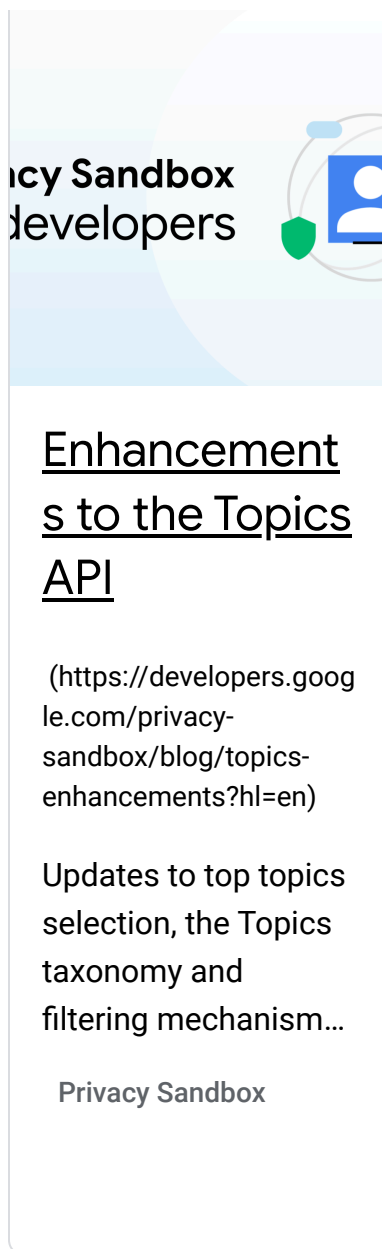
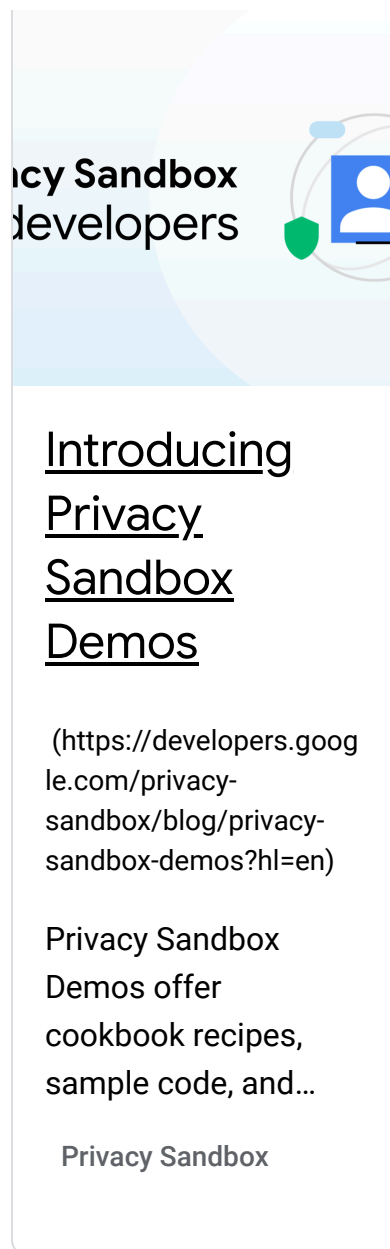


Related Website Sets - the new name for First-Party Sets in Chrome 117

(<https://developers.google.com/privacy-sandbox/blog/related-website-sets?hl=en>)

Related Website Sets (RWS) is the new name for First-Party Sets. It also brings...

Privacy Sandbox



Preparing to ship the Privacy Sandbox relevance and measurement APIs

(<https://developers.google.com/privacy-sandbox/blog/shipping-privacy-sandbox?hl=en>)

General availability for these APIs begins in late July with Chrome Stable 115.

Privacy Sandbox

Developer enrollment for the Privacy Sandbox

(<https://developers.google.com/privacy-sandbox/blog/announce-enrollment-privacy-sandbox?hl=en>)

A new process to new verify developer identity and gather configuration details...

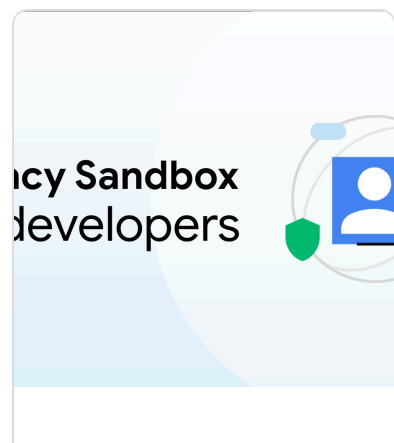
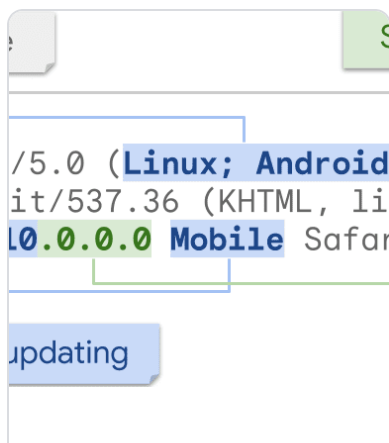
Privacy Sandbox

Participate in deprecation trial for unpartitioned third-party storage, Service Workers, and Communication APIs

(<https://developers.google.com/privacy-sandbox/blog/storage-partitioning-deprecation-trial?hl=en>)

Beginning gradually in Chrome 115, storage, service workers, and communication API...

Privacy Sandbox



Prepare for Chrome's user-agent reduction

(<https://developers.google.com/privacy-sandbox/blog/user-agent-reduction-android-model-and-version?hl=en>)

Starting in Chrome 110 (February 2023) we are gradually introducing a fixed...

JavaScript

Privacy Sandbox

Rowan Merewood

FLEDGE Bidding and Auction services availability

(<https://developers.google.com/privacy-sandbox/blog/bidding-and-auction-services-availability?hl=en>)

These services will be available for testing in 2023, for Chrome and Android.

Privacy Sandbox

Priyanka Chatterjee

February 9, 2023

Maximize ad relevance

(<https://developers.google.com/privacy-sandbox/blog/maximize-ad-relevance?hl=en>)

Privacy Sandbox ad relevance without third-party cookies.


Privacy Sandbox

Joey Trotz

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ubDomains; preload
ko ar)

Participate in origin trial for Accept-

 (<https://developers.google.com/privacy-sandbox/blog/first-party-sets-testing-instructions?hl=en>)

First-Party Sets testing instructions

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Privacy Sandbox for the web:

Language Reduction

(<https://developers.google.com/privacy-sandbox/blog/origin-trial-for-accept-language-reduction?hl=en>)

Accept-Language Reduction is an effort to reduce passive fingerprinting...

JavaScript

Privacy Sandbox

Victor Tan
December 1, 2022

(<https://developers.google.com/privacy-sandbox/blog/first-party-sets-testing-instructions?hl=en>)

First-Party Sets can allow related domain names that are owned and operated...

Privacy Sandbox

Milica Mihajlija
December 1, 2022

Expanding testing into 2023

(<https://developers.google.com/privacy-sandbox/blog/expanding-privacy-sandbox-testing-2023?hl=en>)

Testing takes time. We're taking a deliberate approach to testing the Privac...

Privacy Sandbox

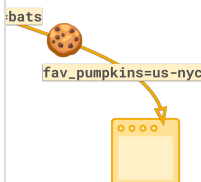
Joey Trotz
November 10, 2022

Privacy Sandbox
developers



Increasing the Privacy Sandbox Relevance and Measurement

(<https://developers.google.com/privacy-sandbox/blog/no-spooky-cookies?hl=en>)



No spooky cookies

(<https://developers.google.com/privacy-sandbox/blog/no-spooky-cookies?hl=en>)

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Participate in early testing for Storage Partitioning

origin trial to 5%

(<https://developers.google.com/privacy-sandbox/blog/privacy-sandbox-origin-trial-increase?hl=en>)

This week, no sooner than October 26, we'll begin increasing the Privacy Sandbox...

Privacy Sandbox

Christina Ilvento
October 24, 2022

Cookies are best fresh, so what are the latest recipes to ensure you can still...

Privacy Sandbox

Rowan Merewood
October 24, 2022

(<https://developers.google.com/privacy-sandbox/blog/storage-partitioning-dev-trial?hl=en>)

To improve privacy, Chrome is changing how storage and communication API...

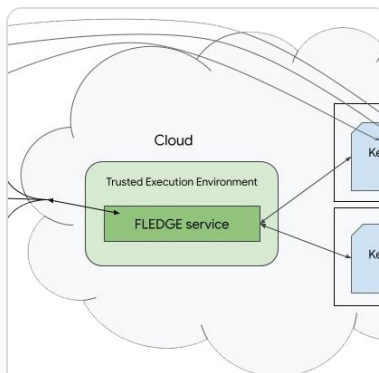
Privacy Sandbox

Mike Taylor
September 1, 2022

Privacy Sandbox
developers



Prepare for User-Agent Reduction changes in October



FLEDGE services for Chrome and Android

(<https://developers.google.com/privacy-sandbox/blog/fledge-service-overview?hl=en>)

Privacy Sandbox
developers



Open sourcing the FLEDGE Key/Value service

(<https://developers.google.com/privacy-sandbox/blog/user-agent-reduction-oct-2022-updates?hl=en>)

In October, Chrome will take the next step in reducing the information availabl...

Privacy Sandbox

FLEDGE is a Privacy Sandbox proposal to serve remarketing and custom audienc...

Privacy Sandbox

Alexandra White

August 24, 2022

(<https://developers.google.com/privacy-sandbox/blog/open-sourcing-fledge-key-value-service?hl=en>)

FLEDGE Key/Value service

Privacy Sandbox

Kevin K. Lee

Privacy Sandbox
developers



Expanding Privacy Sandbox testing

(<https://developers.google.com/privacy-sandbox/blog/expanding-privacy-sandbox-testing?hl=en>)

As the Privacy Sandbox timeline changes, learn about the expanding and...

Privacy Sandbox
developers



Progress in the Privacy Sandbox (May - June 2022)

(<https://developers.google.com/privacy-sandbox/blog/progress-in-the-privacy-sandbox-2022-06?hl=en>)

Updates including including an expanded Privacy Sandbox Relevance...




Privacy Sandbox
developers



Attribution Reporting updates in June 2022

(<https://developers.google.com/privacy-sandbox/blog/attribution-reporting-updates-june-2022?hl=en>)

Review the latest changes to the Attribution Reporting API.

<div>Privacy Sandbox</div> <div>Rowan Merewood July 27, 2022</div>	<div>Privacy Sandbox</div> <div>Rowan Merewood July 8, 2022</div>	<div>Privacy Sandbox</div> <div>Alexandra White June 23, 2022</div>
<div><div>Privacy Sandbox developers</div><div></div></div> <div><u>Generate summary reports with the aggregation service</u></div> <div>(https://developers.google.com/privacy-sandbox/blog/generate-summary-reports?hl=en)</div> <div>Experiment and set up the aggregation service to generate Attribution Reportin...</div> <div>Privacy Sandbox</div> <div>Alexandra White</div>	<div><div>Privacy Sandbox developers</div><div></div></div> <div><u>Cookies Having Independent State (CHIPS) origin trial extended</u></div> <div>(https://developers.google.com/privacy-sandbox/blog/chips-origin-trial-extended?hl=en)</div> <div>CHIPS is a Privacy Sandbox proposal that introduces a mechanism to opt-in...</div> <div>Privacy Sandbox</div> <div>Milica Mihajlija</div>	<div><div>Privacy Sandbox developers</div><div></div></div> <div><u>Progress in the Privacy Sandbox (March - April 2022)</u></div> <div>(https://developers.google.com/privacy-sandbox/blog/progress-in-the-privacy-sandbox-2022-04?hl=en)</div> <div>Updates including including a number of APIs available for origin trial: CHIPS fo...</div> <div>Privacy Sandbox</div> <div>Rowan Merewood</div>

June 6, 2022



Join Privacy Sandbox developer office hours #1: learn about Chrome Origin Trials

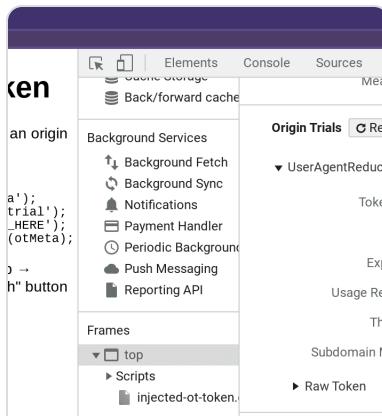
(<https://developers.google.com/privacy-sandbox/blog/privacy-sandbox-office-hours-1?hl=en>)

Join the Google Chrome team in our Privacy Sandbox office hours, where...

Privacy Sandbox

Mariah Hart
April 18, 2022

May 26, 2022



Test the Privacy Sandbox ads relevance and measurement APIs

(<https://developers.google.com/privacy-sandbox/blog/privacy-sandbox-unified-origin-trial?hl=en>)

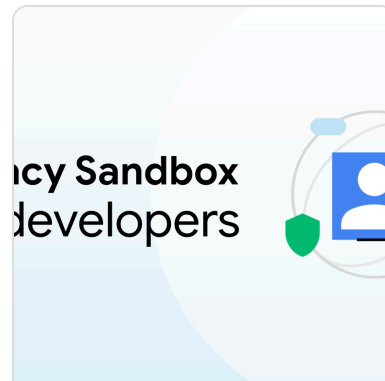
Learn about developer testing and the upcoming origin trial allowing for...

JavaScript

Privacy Sandbox

Rowan Merewood
March 31, 2022

May 17, 2022



Cookies Having Independent Partitioned State (CHIPS) origin trial

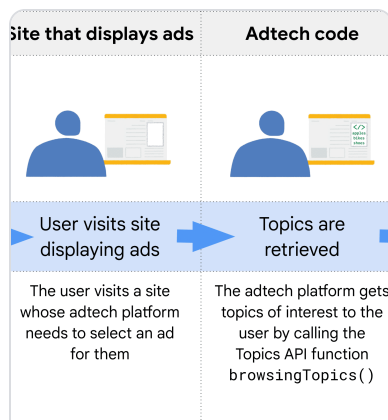
(<https://developers.google.com/privacy-sandbox/blog/chips-origin-trial?hl=en>)

Starting in Chrome 100, CHIPS origin trial allows opting cookies in to "partitioned"...

JavaScript

Privacy Sandbox

Milica Mihajlija
March 17, 2022



Progress in the Privacy Sandbox (January/February 2022)

(<https://developers.google.com/privacy-sandbox/blog/progress-in-the-privacy-sandbox-2022-02?hl=en>)

Updates including Privacy Sandbox on Android, CHIPS origin trial, user-agent...

Privacy Sandbox

Rowan Merewood
March 4, 2022

kjKd7B9t1CDTqEJ34CIVxmIVano0LZXAh>
jWZ0ZXJSZWR1Y3Rpb24iLCJleHBpcnkiOj
ns; preload

User-Agent Reduction deprecation trial

(<https://developers.google.com/privacy-sandbox/blog/user-agent-reduction-deprecation-trial?hl=en>)

Starting from Chrome 101, the information available in the User-Agent string will be...

Privacy Sandbox

Ali Beyad
February 24, 2022

<https://developers.google.com/privacy-sandbox/blog/fledge-api?hl=en>

FLEDGE API developer guide

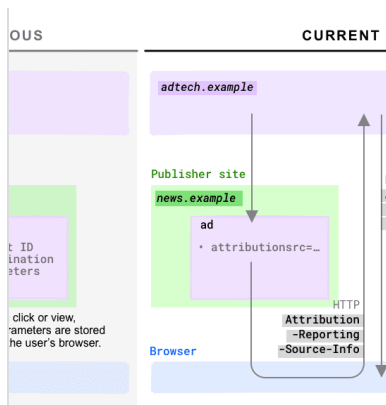
(<https://developers.google.com/privacy-sandbox/blog/fledge-api?hl=en>)

Protected Audience API is a Privacy Sandbox proposal to serve remarketing...

JavaScript HTML

Privacy Sandbox

Sam Dutton
January 27, 2022



Attribution Reporting proposal updates in January 2022

(<https://developers.google.com/privacy-sandbox/blog/attribution-reporting-jan-2022-updates?hl=en>)

Learn about changes made to Attribution Reporting to reflect community feedback.

Privacy Sandbox

Privacy Sandbox developers



Progress in the Privacy Sandbox (December 2021)

(<https://developers.google.com/privacy-sandbox/blog/progress-in-the-privacy-sandbox-2021-12?hl=en>)

Looking back at stats from 2021 and some resolutions for tackling user-agent...

HTML

Privacy Sandbox

Privacy Sandbox developers



Progress in the Privacy Sandbox (November 2021)

(<https://developers.google.com/privacy-sandbox/blog/progress-in-the-privacy-sandbox-2021-11?hl=en>)

Monthly summary of Privacy Sandbox news including a CDS recap and User-Age...

Privacy Sandbox



November 3 📍 Virtually

Progress in the Privacy Sandbox (October 2021)

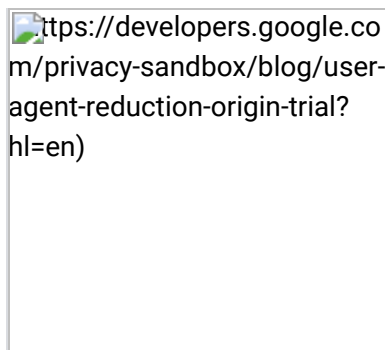
(<https://developers.google.com/privacy-sandbox/blog/progress-in-the-privacy-sandbox-2021-10?hl=en>)

Monthly summary of Privacy Sandbox news including the



(<https://developers.google.com/privacy-sandbox/blog/progress-in-the-privacy-sandbox-2021-09?hl=en>)

Monthly summary of Privacy Sandbox news including

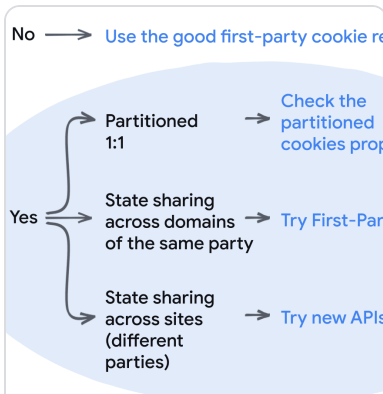


User-Agent Reduction origin trial


(<https://developers.google.com/privacy-sandbox/blog/user-agent-reduction-origin-trial?hl=en>)

Starting in Chrome 95 Beta, an origin trial allowed sites to opt into receiving the...

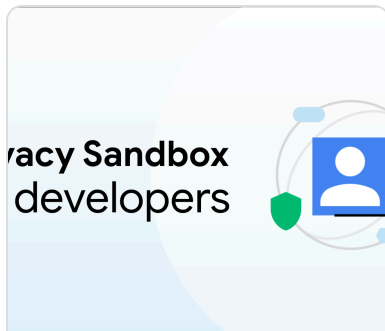
Privacy Sandbox



Progress in the Privacy



[OUTDATED] First-Party Sets and the



How to take part in the

Sandbox (August 2021)

(<https://developers.google.com/privacy-sandbox/blog/progress-in-the-privacy-sandbox-2021-08?hl=en>)

First in the series of monthly summaries for changes across the Privacy Sandbox...

Privacy Sandbox

Rowan Merewood
August 30, 2021

SameParty attribute

(<https://developers.google.com/privacy-sandbox/blog/first-party-sets-sameparty?hl=en>)

First-Party Sets can allow related domain names that are owned and operated...

Privacy Sandbox

Rowan Merewood
August 26, 2021

FLoC origin trial

(<https://developers.google.com/privacy-sandbox/blog/floc?hl=en>)

Federated Learning of Cohorts (FLoC) provides a privacy preserving...

JavaScript

Privacy Sandbox

Sam Dutton
March 30, 2021

Privacy Sandbox
developers



How to
participate in
the Privacy
Sandbox
initiative

Privacy Sandbox
developers



Progress
update on the
Privacy
Sandbox
initiative

(<https://developers.google.com/privacy-sandbox/blog/privacy-sandbox-participate?hl=en>)

The Privacy Sandbox proposes a set of privacy-preserving APIs to support...

Privacy Sandbox

Justin Schuh

(<https://developers.google.com/privacy-sandbox/blog/privacy-sandbox-update-2021-jan?hl=en>)

The Privacy Sandbox proposes a set of privacy-preserving APIs to support...

Privacy Sandbox

Justin Schuh

[^ Less](#)